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ference in the work of the kidneys. It should also be pointed out that even though arterial pressure is subnormal, yet a weakened heart working against comparatively low pressure may be in as great danger as a strong and fresh heart working against high pressure. The conditions may, it is true, be only transitory; they may pass away without lasting ill effects; but they are all distinctly unfavorable conditions in the organism, and we are not justified in looking upon them as other than warnings which must be heeded in formulating proper systems of physical training for the masses.

It is, of course, easy to exaggerate these dangers and it is difficult even to state them clearly and fairly without running the risk of being misunderstood. I should be the last man in the world to advocate the banishment of athletic activities from college life. I would not be understood to discourage new forms of physical exercise merely because they are new and have not formed part of the ancestral activities to which the adaptation of the organism is most perfect. I believe in the active life, in the cultivation of greater physical strength and endurance with all classes and all ages; but let us do this with full understanding of the risks involved, always with due reference to securing in each individual the maximal efficiency in subsequent life, and above all with the determination to provide for the masses the best possible physical training.

THEODORE HOUGH

UNIVERSITY OF VIRGINIA

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#### CURRENT PROGRESS IN CONSERVATION WORK

THE Proceedings of the Conference of Governors on the conservation of the natural resources of the country, held in the White House, Washington, May 13-15, 1908, have just been issued in a volume of

xxxv + 451 pages. The bulk of the edition is distributed by senators and representatives; the smaller portion designed for distribution by the President among the governors and other conferees is in course of distribution under the direction of ex-President Roosevelt by the Joint Committee on Conservation (Hon. Gifford Pinchot, chairman).

The National Conservation Commission, appointed by the President on June 8 last pursuant to action at the Governors' Conference, held a working session during the first week in December last, at which an inventory of the resources of the country was discussed and a report adopted; during the second week in December the inventory and report were considered at the Joint Conference of State and National commissions and commissions or committees appointed by national organizations. The Joint Conference approved and supplemented the papers, which were duly submitted to the President and were by him in January transmitted to Congress with an approving message. The inventory is the most complete quantitative statement of natural resources ever prepared for any country. After some delay, publication was authorized by Congress, and the matter is now in type and undergoing proof revision. It will form two volumes, aggregating some 1,700 pages. Provision has not yet been made for adequate distribution.

The complete preliminary Report of the Inland Waterways Commission (which body arranged for the Governors' Conference and the subsequent steps in the conservation movement) has been in the hands of the printer for several months, completion being delayed by extensive proof revision, especially of the extended statistical matter prepared in the office of Hon. Herbert Knox Smith, Commissioner of Corporations. The matter is now on

the press, and will be issued within a few days in a volume of vii + 703 pages. The bulk of the edition will be distributed by senators and representatives; a limited number of copies being held for the use of experts.

Pursuant to the Joint Conference in December, President Roosevelt invited Canada and Mexico to join the United States in a joint movement for taking stock of the natural resources of the North American continent. The neighboring nations accepted with alacrity, and each designated three commissioners to meet in Washington with a like number of American commissioners on February 18; and at the instance of the British Ambassador the colony of Newfoundland was also represented. This "North American Conservation Conference" was signally harmonious, and constructive ideas prevailed throughout the deliberations. These continued until February 23, and resulted in the appended *Declaration of Principles*.

A specially noteworthy feature is the unanimous opinion that the time has come for rendering the conservation movement world-wide in scope. When this opinion was submitted to President Roosevelt, he promptly responded by addressing invitations to all civilized nations to join in a conference devoted to consideration of the world's natural resources, to be held at The Hague at such date as may be found generally convenient—if practicable, about September next. Replies (without exception favorable) are arriving in due course; the French government has already taken formal action, and several other nations have announced that action is under way.

During the closing days of the Sixtieth Congress the following amendment was added to the Sundry Civil Bill:

Sec. 9. That hereafter no part of the public moneys, or of any appropriation heretofore or hereafter made by Congress, shall be used for the

payment of compensation or expenses of any commission, council, board, or other similar body, or any members thereof, or for expenses in connection with any work or the results of any work or action of any commission, council, board, or other similar body, unless the creation of the same shall be or shall have been authorized by law; nor shall there be employed by detail, hereafter or heretofore made, or otherwise personal services from any executive department or other government establishment in connection with any such commission, council, board or other similar body.

When the bill was enacted and submitted to the President for signature, he disapproved this item in a memorandum attached to and forming a part of the Act (and which has received wide attention through the press), as follows:

I have hesitated long before affixing my signature to this bill, and if it were earlier in the session, or if the bill contained a less number of important propositions of benefit to the country, I should certainly not sign it. Moreover, if section 9 of the bill, to which I subsequently refer, were operative according to its evident intent, I should be forced to veto the bill anyhow. But I have concluded that this section is not operative to the extent that its framers evidently hoped, and that the mischief it will cause, though appreciable, can be sufficiently remedied by the action of the Executive to warrant my permitting the bill to become a law, in view of all the considerations surrounding the case.

Section 9 of the act contains a provision far more damaging to the interests of the public. This attempts to prohibit the use of any government funds or the detail of any government clerks to help the work of any commission, council or board, unless the same is specifically authorized by previous congressional action. This could certainly only result in hampering efficient government work. But as the purpose of the attempt in its entirety is clearly an invasion of executive prerogative, and unconstitutional and void, it is only very partially successful. The provision is obviously aimed at such commissions or boards as, for instance, the Conservation Commission, the Country Life Commission, the Council of Fine Arts, the General Board of the Navy and the Joint Board of the Army and Navy, not to speak of such boards as the National Advisory Board on Structural Material, the board of reference in

connection with the pure food law and scores of others, none of which were first authorized by Congress, but all of which were called together by the Executive for the purpose of public service; for the purpose of rendering to our people sorely needed service which could not and would not otherwise have been rendered. So far as the various army and navy boards are concerned, the attempt is fortunately futile, and represents merely failure in an effort to subordinate purely military and national considerations to small personal or political considerations. The President has under the Constitution the sole power to direct the use of the officers of the army and navy, always provided he acts within the limits set by the Constitution. The Congress can no more forbid the President to use the services of officers or employees when they act in concert as a board or council than it can forbid him to use their services when they act as individuals.

The chief object of this provision, however, is to prevent the Executive repeating what it has done within the last year in connection with the Conservation Commission and the Country Life Commission. It is for the people of this country to decide whether or not they believe in the work done by the Conservation Commission and by the Country Life Commission. If the people of this country do not believe in the conservation of our natural resources; if they do not believe in developing our waterways and protecting our forests; if they do not believe in the betterment of life on the farm, and in upholding the interests of the farmers; if they are willing to go on in the old course of squandering the effects of our children's children; then they will uphold the action of those in Congress who are responsible for this provision. If they believe in improving our waterways, in preventing the waste of soil, in preserving the forests, in thrifty use of the mineral resources of the country for the nation as a whole rather than merely for private monopolies, in working for the betterment of the condition of the men and women who live on the farms, then they will unstintingly condemn the action of every man who is in any way responsible for inserting this provision, and will support those members of the legislative branch who opposed its adoption. I would not sign the bill at all if I thought the provision entirely effective. But the Congress can not prevent the President from seeking advice. Any future President can do as I have done, and ask disinterested men who desire to serve the people to give this service free to the people through

these commissions. This action taken by the Congress hampers and renders more difficult the work of such commissions, and entails a greater sacrifice in time and money upon the public-spirited men who disinterestedly and without any recompense have served or may serve on these commissions. But the Congress can only hamper and render more difficult, it can not stop this work. The Executive can continue to appoint these commissions and can make exactly the use of them that I have made in the past, although, owing to the Congress, a greater burden will be put upon them.

The republican platform last year said: "We endorse the movement inaugurated by the administration for the conservation of natural resources. . . . No obligation of the future is more insistent and none will result in greater blessings to posterity." The democratic platform said: "We repeat the demand for internal development and for the conservation of our natural resources, the enforcement of which Mr. Roosevelt has . . . sought."

My successor, the President-elect, in a letter to the Senate Committee on Appropriations, asked for the continuance and support of the Conservation Commission. The Conservation Commission was appointed at the request of the governors of over forty states, and almost all of these states have since appointed commissions to cooperate with the national commission. Nearly all the great national organizations concerned with natural resources have been heartily cooperating with the commission.

With all these facts before it, the Congress has refused to pass a law to continue and provide for the commission; and it now passes a law with the purpose of preventing the Executive from continuing the commission at all. The Executive, therefore, must now either abandon the work and reject the cooperation of the states, or else must continue the work personally and through executive officers whom he may select for that purpose.

When I speak of the Congress I, of course, mean those members of the Congress who are responsible for this provision of the bill, and I emphatically do not mean those public-spirited members who have striven to prevent the incorporation in the bill of this provision. To the Congressmen who in this and similar matters have stood by the interests of the public, the interests of those whom Abraham Lincoln called "the plain people," the heartiest support is owing. But I call the atten-

tion of those who are responsible for putting in this provision to a fundamental fact which is often ignored in discussing and comparing the action of the executive and the action of the legislative branches of the government. Neither one is responsible to the other. Each must act as its wisdom dictates. But each is responsible to the people as a whole. It is for the people to decide whether they are represented aright by any given servant; and one element in enabling them to reach a decision must be that public servant's record in such a case as this.

At the Joint Conference on Conservation, in December, a resolution was offered providing for a joint committee of nine to prepare a plan of cooperation among conservation commissions, six members to be appointed from state commissions and three from the National Commission; in the course of discussion, provision was made for including also the chairman and secretary of the latter body (Hon. Gifford Pinchot and Mr. Thomas R. Shipp) and in this form the resolution was adopted. The first formal meeting of this joint committee was set for March 5; and on that and the ensuing day the committee met and framed a plan for joint work which will be circulated during the present month. On March 6 several members of the committee, headed by ex-Governor Pardee, of California, and accompanied by Governors Deneen, of Illinois, Willson, of Kentucky, and Quinby, of New Hampshire, submitted the general plan for continuing the conservation work to President Taft, who reiterated his frequently expressed intention of continuing the task begun by his predecessor, and using every effort to secure legislative action. In the course of the meeting of the Joint Committee on Conservation, it was found that thirty-seven states have appointed state conservation commissions, and that some thirty organizations of national character have appointed committees of like character and purpose. Definite arrangements were made for coordi-

nating the work of these organizations in such manner as to yield increasingly accurate inventories of the natural sources of national prosperity and perpetuity. Messrs. Pinchot and Shipp, respectively, were made chairman and secretary of the committee, and headquarters were established in the Wyatt building, Washington, D. C. W J MCGEE

#### NORTH AMERICAN CONSERVATION CONFERENCE DECLARATION OF PRINCIPLES

We recognize the mutual interests of the nations which occupy the continent of North America and the dependence of the welfare of each upon its natural resources. We agree that the conservation of these resources is indispensable for the continued prosperity of each nation.

We recognize that the protection of mutual interests related to natural resources by concerted action, without in any way interfering with the authority of each nation within its own sphere, will result in mutual benefits, and tend to draw still closer the bonds of existing good will, confidence and respect. Natural resources are not confined by the boundary lines that separate nations. We agree that no nation acting alone can adequately conserve them, and we recommend the adoption of concurrent measures for conserving the material foundations of the welfare of all the nations concerned, and for ascertaining their location and extent.

We recognize as natural resources all materials available for the use of man as means of life and welfare, including those on the surface of the earth, like the soil and the waters; those below the surface, like the minerals; and those above the surface, like the forests. We agree that these resources should be developed, used and conserved for the future, in the interests of mankind, whose rights and duties to guard and control the natural sources of life and welfare are inherent, perpetual and indefeasible. We agree that those resources which are necessities of life should be regarded as public utilities, that their ownership entails specific duties to the public, and that as far as possible effective measures should be adopted to guard against monopoly.

*Public Health.*—Believing that the conservation movement tends strongly to develop national efficiency in the highest possible degree in our respective countries, we recognize that to accom-

plish such an object with success, the maintenance and improvement of public health is a first essential.

In all steps for the utilization of natural resources considerations of public health should always be kept in view.

Facts which can not be questioned demonstrate that immediate action is necessary to prevent further pollution, mainly by sewage, of the lakes, rivers and streams throughout North America. Such pollution, aside from the enormous loss in fertilizing elements entailed thereby, is an immediate and continuous danger to public health, to the health of animals, and, when caused by certain chemical agents, to agriculture. Therefore we recommend that preventive legislation be enacted.

*Forests.*—We recognize the forests as indispensable to civilization and public welfare. They furnish material for construction and manufacture, and promote the habitability of the earth. We regard the wise use, effective protection, especially from fire, and prompt renewal of the forests on land best adapted to such use, as a public necessity and hence a public duty devolving upon all forest owners alike, whether public, corporate or individual.

We consider the creation of many and large forest reservations and their permanent maintenance under government control absolutely essential to the public welfare.

We favor the early completion of inventories of forest resources, in order to ascertain the available supply and the rate of consumption and reproduction.

We recommend the extension of technical education and practical field instruction in forest conservation, afforestation and reforestation, so as to provide efficient forest officers whose knowledge will be available for necessary public information on these subjects.

Believing that excessive taxation on standing timber privately owned is a potent cause of forest destruction by increasing the cost of maintaining growing forests, we agree in the wisdom and justice of separating the taxation of timber land from the taxation of the timber growing upon it, and adjusting both in such a manner as to encourage forest conservation and forest growing.

We agree that the ownership of forest lands, either at the headwaters of streams or upon areas better suited for forest growth than for other purposes, entails duties to the public, and that such lands should be protected with equal effect-

iveness, whether under public or private ownership.

Forests are necessary to protect the sources of streams, moderate floods and equalize the flow of waters, temper the climate and protect the soil; and we agree that all forests necessary for these purposes should be amply safeguarded. We affirm the absolute need of holding for forests, or reforesting, all lands supplying the headwaters of streams, and we therefore favor the control or acquisition of such lands for the public.

The private owners of lands unsuited to agriculture, once forested and now impoverished or denuded, should be encouraged by practical instruction, adjustment of taxation, and in other proper ways, to undertake the reforestation thereof.

Notwithstanding an increasing public interest in forestry, the calamitous and far-reaching destruction of forests by fire still continues and demands immediate and decisive action. We believe that systems of fire guardianship and patrol afford the best means of dealing adequately with fires which occur, whether from natural causes, such as lightning, or in other ways; but we affirm that in addition thereto effective laws are urgently needed to reduce the vast damage from preventable causes.

Apart from fire, the principal cause of forest destruction is unwise and improvident cutting, which, in many cases, has resulted in widespread injury to the climate and the streams. It is therefore of the first importance that all lumbering operations should be carried on under a system of rigid regulation.

*Waters.*—We recognize the waters as a primary resource, and we regard their use for domestic and municipal supply, irrigation, navigation and power as interrelated public uses and properly subject to public control. We therefore favor the complete and concurrent development of the streams and their sources for every useful purpose to which they may be put.

The highest and most necessary use of water is for domestic and municipal purposes. We therefore favor the recognition of this principle in legislation and, where necessary, the subordination of other uses of water thereto.

The superior economy of water transportation over land transportation, as well as its advantages in limiting the consumption of the non-renewable resources, coal and iron, and its effectiveness in the promotion of commerce, are generally acknowledged. We therefore favor the development of inland navigation under general plans adapted

to secure the uniform progress of the work and the fullest use of the streams for all purposes. We further express our belief that all waterways so developed should be retained under exclusive public ownership and control.

We regard the monopoly of waters, and especially the monopoly of water power, as peculiarly threatening. No rights to the use of water powers in streams should hereafter be granted in perpetuity. Each grant should be conditioned upon prompt development, continued beneficial use, and the payment of proper compensation to the public for the rights enjoyed; and should be for a definite period only. Such period should be no longer than is required for reasonable safety of investment. The public authority should retain the right to readjust at stated periods the compensation to the public and to regulate the rates charged, to the end that undue profit or extortion may be prevented.

Where the construction of works to utilize water has been authorized by public authority and such utilization is necessary for the public welfare, provision should be made for the expropriation of any privately owned land and water rights required for such construction.

The interest of the public in the increase of the productiveness of arid lands by irrigation and of wet lands by drainage is manifest. We therefore favor the participation of the public to secure the complete and economical development and use of all water available for irrigation and of all lands susceptible of profitable drainage, in order to ensure the widest possible benefit. Special projects should be considered and developed in connection with a general plan for the same watershed. In the matter of irrigation, public authority should control the headwaters and provide for the construction of storage reservoirs and for the equitable distribution and use of the stored water.

*Lands.*—We recognize land as a fundamental resource, yielding the materials needed for sustaining population, and forming the basis of social organization. Increase in the productivity of the soil is a growing need, and the possession of the land by the men who live upon it not only promotes such productivity, but is also the best guarantee of good citizenship. In the interest of the homemaker, we favor regulation of grazing on public land, the disposal of public lands to actual settlers in areas each sufficient to support a family, and the subdivision of excessive holdings of agricultural or grazing land, thereby preventing monopoly.

The preservation of the productivity of the soil is dependent upon rotation of crops, fertilization by natural or artificial means and improved methods in farm management. The quantity and quality of crops are also dependent upon the careful selection of seed. We therefore favor the distribution by government bureaus of scientific and practical information on these points, and we urge upon all farmers careful attention thereto.

The national importance for grazing of non-irrigable public lands too dry for cultivation and the public loss occasioned by overgrazing are generally acknowledged. We therefore favor government control of such lands in order to restore their value, promote settlement and increase the public resources.

The first requisite for forest or other covering which will conserve the rainfall and promote regularity of water flow is the retention of the soil upon watersheds. We therefore favor the construction of such artificial works as may effect this purpose and the encouragement thereof by remission of taxes, government cooperation, or other suitable means.

*Minerals.*—We recognize the mineral resources as forming the chief basis of industrial progress, and regard their use and conservation as essential to the public welfare. The mineral fuels play an indispensable part in our modern civilization. We favor action on the part of each government looking towards reduction of the enormous waste in the exploitation of such fuels, and we direct attention to the necessity for an inventory thereof. Such fuels should hereafter be disposed of by lease under such restrictions or regulations as will prevent waste and monopolistic or speculative holding, and supply the public at reasonable prices.

We believe that the surface rights and underground mineral rights in lands should be separately dealt with so as to permit the surface of the land to be utilized to the fullest extent, while preserving government control over the minerals.

Regulations should be adopted looking to the most economical production of coal and other mineral fuels and the prolongation of the supply to the utmost. We favor also the substitution of water power for steam or other power produced by the consumption of fuel.

Great economy in the use of fuel has resulted in the past from the application of scientific inventions and the use of improvements in machinery, and further progress can be made in the same direction. We therefore recommend that all possible encouragement and assistance be given in

the development and perfecting of means whereby waste in the consumption of fuel can be reduced.

The loss of human life through preventable mining accidents in North America is excessive. Much needless suffering and bereavement results therefrom. Accompanying this loss there is great destruction of valuable mineral property and enhancement of the cost of production. The best method of eliminating these known and admitted evils lies in the enactment and strict enforcement of regulations which will provide the greatest possible security for mine workers and mines. We therefore favor the scientific investigation of the whole subject of mine accidents by the governments participating in this conference, the interchange of information and experience and the enactment and enforcement of the best regulations that can be devised.

Mineral fertilizers should not be monopolized by private interests, but should be so controlled by public authority as to prevent waste and to promote their production in such quantity and at such price as to make them readily available for use.

*Protection of Game.*—We recognize that game preservation and the protection of bird life are intimately associated with the conservation of natural resources. We therefore favor game protection under regulation, the creation of extensive game preserves and special protection for such birds as are useful to agriculture.

*Conservation Commissions.*—The action of the President of the United States in calling this first conference to consider the conservation of the natural resources of North America was in the highest degree opportune, and the proceedings which have followed, and the information mutually communicated by the representatives assembled, have, we believe, been conducive to the best interests of the countries participating. To derive the greatest possible benefit from the work which has already been done, and to provide proper and effective machinery for future work, there should be established in each country a permanent conservation commission.

When such conservation commissions have been established, a system of intercommunication should be inaugurated, whereby, at stated intervals, all discoveries, inventions, processes, inventories of natural resources, information of a new and specially important character, and seeds, seedlings, new or improved varieties, and other productions which are of value in conserving or improving any natural resource shall be trans-

mitted by each commission to all of the others, to the end that they may be adopted and utilized as widely as possible.

*World Conservation Conference.*—The conference of delegates, representatives of the United States, Mexico, Canada and Newfoundland, having exchanged views and considered the information supplied from the respective countries, is convinced of the importance of the movement for the conservation of natural resources on the continent of North America, and believes that it is of such a nature and of such general importance that it should become worldwide in its scope, and therefore suggests to the President of the United States of America that all nations should be invited to join together in conference on the subject of world resources and their inventory, conservation and wise utilization.

GIFFORD PINCHOT,

ROBERT BACON,

JAMES R. GARFIELD,

*Commissioners Representing the United States.*

SYDNEY FISHER,

CLIFFORD SIFTON,

HENRI S. BÉLAND,

*Commissioners Representing the Dominion of Canada.*

RÓMULO ESCOBAR,

MIGUEL A. DE QUEVEDO,

CARLOS SELLERIER,

*Commissioners Representing the Republic of Mexico.*

E. H. OUTERBRIDGE,

*Commissioner Representing the Colony of Newfoundland.*

Attest:

ROBERT E. YOUNG,

THOMAS R. SHIPP,

*Secretaries of the Conference.*

WASHINGTON, D. C., February 23, 1909

#### SCIENTIFIC NOTES AND NEWS

THE centenary of the birth of Darwin was commemorated at Syracuse University on March 19, by a meeting held under the auspices of the Syracuse Chapter of Sigma Xi, the Onondaga Academy of Science, the Syracuse Academy of Medicine, the Syracuse Botanical Club, the University Biological Association and the University Geological Club. Addresses were made as follows: "Darwin and Zoology," by Professor Charles W. Hargitt; "Darwin and Botany," by Professor William L. Bray; "Darwin and Geology," by Dr. John M. Clarke, state geologist, Albany.

WASHBURN COLLEGE and the Kansas Academy of Science celebrated the centenary of